THE SOURCE

NEWSLETTER OF THE NHDES DRINKING WATER SOURCE PROTECTION PROGRAM
ON THE WEB AT *WWW.DES.NH.GOV/DWSPP*

FALL 2005

Using the Site Plan Review Process to Promote Aquifer Protection

By Todd H. Dresser, CHMM, Environmental Scientist, Cuoco & Cormier Engineering Associates, Inc.

The site plan review process can be used to evaluate and address a number of environmental and natural resource concerns and to assure the implementation of measures designed to protect local aquifers.

First, every community that utilizes public or private wells for drinking water has a vested interest to protect and sustain these resources. Second, it is not safe to assume that the designer and developer have carefully reviewed and evaluated all environmental concerns during the design process. Experience shows that approximately 25 percent of the development proposals submitted to one Massachusetts town originally contained at least one feature that could have promoted contaminant migration or threatened the municipal well field.

Groundwater contamination is more common than most officials realize. Contamination is often found at gas stations, dry cleaners, industrial facilities, underground storage tanks such as those used at farms, and commercial septic systems. The presence of contamination does not prevent development but must be effectively evaluated and managed so that the project does not adversely affect the health and well being of the community.

During the site plan review process, every community should require the developer to describe the environmental status of the site. Have any releases occurred on site? Is the site listed with DES or EPA as a hazardous waste site? Have hazardous materials or storage tanks been maintained on site? These basic questions should be incorporated into the local site plan application. If the answer to any of them is yes then more careful consideration will be needed for the following: the use of an on-site well for drinking water, the design of the drainage system; and de-watering activities. Each of these activities could easily promote contaminant migration and increase the risk of human exposure.

In conclusion, the site plan review process is an information gathering process designed to enable the community to make informed decisions. Environmental management can and should be part of the process.

Tip 1: A wealth of information about hazardous waste sites and other sites of concern is available on DES's OneStop web site at *www.des.state.nh.us/OneStop/*.

Tip 2: If monitoring wells are present on site, then someone has completed an environmental assessment of the parcel, and there must have been a reason why. The community should seek an explanation from the developer. The developer should also provide the well completion reports and environmental report summarizing the purpose and results of the review.

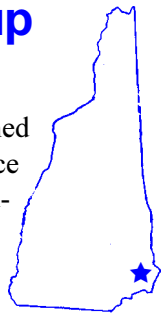
The viewpoints expressed in this article are those of the author and not necessarily those of DES. DES has not necessarily verified the accuracy of all statements in this article.

Mailing Corrections & Address Removals

If you do **not** want this quarterly newsletter mailed to you, or if you would rather receive it electronically (and two weeks sooner), please call (603) 271-0657 or email us at bgauthier@des.state.nh.us.

Spotlight on ... Seacoast Water Emergency Aid Group

By Dean Peschel, Environment Project Manager, City of Dover



Mutual aid amongst New Hampshire communities is well established in the areas of public works, fire protection and public safety, with communities helping other communities during emergencies. Formal agreements between participating communities spell out what resources are available to share, and precisely define what circumstances constitute an emergency. Until now little has been done in the way of mutual aid for water supply sharing during emergencies in New Hampshire.

For the last two years, ten New Hampshire Seacoast water suppliers and DES have joined forces to explore the potential of providing support to one another during an emergency. The City of Dover on behalf of the Seacoast Water Emergency Aid Group received a grant from DES to conduct a study that will identify the opportunities and obstacles for water suppliers to share water during an emergency. The participating water suppliers are contributing funds for 50 percent of the study. The group worked with a consultant to develop a project scope and budget. The consultant was selected to conduct the study based on their experience with a similar study prepared for a group of six water suppliers in Maine.

The study is addressing the following questions:

- How much excess capacity does each system have on a short-term, emergency basis to contribute to a neighboring community?
- How much water can be physically conveyed through interconnections based on the current limitations within each system?
- What capital expenditures are necessary to achieve the stated water conveyance?
- What chemical compatibility issues arise when waters from different sources are commingled and how can these issues be addressed?
- What operational procedure changes are necessary to facilitate mutual aid?
- Can mutual aid be accomplished without jeopardizing compliance with current drinking water regulations?
- What are the best potential locations for interconnections between the water systems?

The scope of work for the project is systematic and largely sequential, leading off with data gathering and analysis, followed by the regional capacity review, then the hydraulic evaluation including the development of a regional hydraulic model of the water supply systems, followed by the water quality impact evaluation, and finally the preparation of a report summarizing findings and recommendations. Each task builds upon the foundation of knowledge gained under previous tasks.

The study has concluded and the final report should be completed by mid to late fall. Fifteen potential interconnection locations between the ten seacoast water systems were modeled to determine the potential to provide water during an emergency. The model assumes a 30 day-long emergency under existing conditions, i.e., current pumping rates, pipe sizes, etc. The final report will be used for a basis of design to implement the emergency interconnection plan and make mutual aid between water systems a reality.

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www.des.nh.gov/dwspp

Putting Your Source Assessment Results To Work For You

A series exploring ways that assessment results can be used to focus your protection efforts.

Taking a Turn for the Better

In the Drinking Water Source Assessments prepared by DES, most community water systems (56 percent) and non-transient, non-community systems (77 percent) received either a "high" or "medium" groundwater contamination susceptibility rating for the presence of highways or railroads within their source water protection areas.

The threats of greatest concern from highways and railroads are accidental spills of petroleum or hazardous chemicals and chronic loading of contaminants in runoff.

While DES requires all community water systems to file emergency plans, a plan by itself does not prepare the system for an emergency. Spill response exercises are one of the best means for assessing the adequacy of emergency plans and procedures, for determining the readiness of emergency responders, for clarifying roles and responsibilities, and for promoting awareness of potential hazards.

In addition to exercises, structural BMPs including curbs, dikes, and berms along roads, and manual or automatic shutoffs within stormwater systems, should be designed to impede the flow of runoff toward water supply sources. This year the Town of Wilton is using a Local Source Water Grant to study the use of structural BMPs along a state highway in close proximity to the town's wells. In a previous grant round, the Village District of Eidelweiss used a grant to develop a drainage system to protect the system's wells from highway runoff.

While major spills produce the most obvious water quality impacts, normal highway runoff contributes a potentially significant load of contamination everyday. Runoff from paved surfaces (roads, parking lots, etc.) contains pollutants, including sediments, oils and grease, heavy metals, road salt, as well as fertilizers, pesticide, and herbicides, which have been used alongside roads or on adjacent land.With this in mind, consider the following, particularly concerning roads and urban development within source water protection areas.

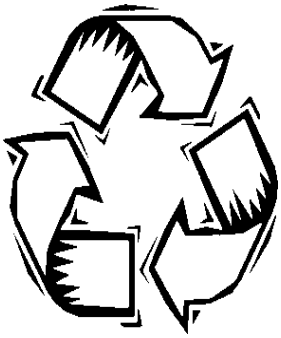
- ☐ Evaluate where the greatest potential threats are to your water system from accidental spills and urban runoff. Address emergency response in your emergency plan, and test the plan with exercises.
- ☐ Make sure that facilities that store, use or dispense large volumes of gas or oil **develop** and **follow** spill prevention and control plans to reduce the amount of contaminated runoff and assure thorough and rapid clean up of spills.
- ☐ Make sure new and existing facilities employ stormwater treatment systems with proven technology for the removal of contaminants.

For more information or assistance, contact the Drinking Water Source Protection Program at (603) 271-7061.

New Publications

The Trust for Public Lands has published a handbook for municipal officials, water suppliers, environmental consultants, and other users titled *Source Protection Handbook*. The 88-page handbook focuses on the scientific, economic, and public health justifications for land conservation as a critical strategy for protecting America's drinking water sources and recharge lands. To download a copy of the handbook, visit www.tpl.org or to purchase copies, contact the Trust for Public Land at (415) 495-4014 or info@tpl.org.

The DES's Source Water Protecton Program has published a guidance document to describe how the use of reclaimed water from wastewater treatment plants is regulated in New Hampshire. To obtain a copy of *Groundwater Discharge Permitting Guidance Document for Recharging Aquifers with Reclaimed Wastewater,* visit www.des.nh.gov/dwspp/pdf/groundwater_discharge.pdf or contact Brandon Kernen at (603) 271-0660 or bkernen@des.state.nh.us.



Palmiotto Receives National Award for Source Water Protection

Jennifer Palmiotto, source water specialist for the New Hampshire Rural Water Association, has been named the 2005 U.S. Source Water Specialist Peer Leader of the Year by the National Rural Water Association. The award recognizes Palmiotto's outstanding efforts to protect public drinking water supplies across New Hampshire.

Working closely with community stakeholders, Palmiotto crafts community and watershed-wide protection plans that help ensure that drinking water remains uncontaminated while balancing the concerns of residents, farmers, businesses and others. As a representative of NHRWA, Palmiotto handles the technical aspects of the plan, acts as liaison for the community's steering committee, and assists with plan implementation. The Peer Leadership Award was presented at the National Rural Water Association's annual event held recently in Nashville, Tennesee.

Palmiotto has worked with communities across New Hampshire since 2002.

Supply Lines is Back!

Supply Lines, the newsletter of the Water Supply Engineering Bureau, has come back to life! To subscribe to the newsletter, please contact Jessica Brock at (603) 271-4071 or jbrock@des.state.nh.us or visit www.des.nh.gov/wseb/supply_lines/index.htm.

$ 1.2 Million Available for Local Source Protection Projects

Applications are due this fall for both the Water Supply Land Grant Program and the Local Source Water Protection Grant Program.

DES's Water Supply Land Grant Program helps municipalities and non-profit water suppliers purchase land or conservation easements within source water protection areas serving community water systems and schools. The state currently has $1 million in its budget for a grant round this fiscal year. Eligibility applications are due November 1; more detailed applications will be due in mid-January. For more information, please visit www.des.nh.gov/dwspp/acqui.htm or contact Karla McManus (603) 271-3114 or kmcmanus@des.state.nh.us.

The Local Source Water Protection Grant Program enables water suppliers, municipalities, and other organizations to implement programs to protect public drinking water sources. While the full range of source water protection projects are eligible for these grants (with the exception of land conservation), DES will be emphasizing projects that provide protection for multiple sources that are currently unprotected. This year, approximately $200,000 is available for grants up to $15,000 each; applications are due November 30. For more information, please visit www.des.nh.gov/dwspp/grants.htm or contact Johnna McKenna at (603) 271-7017 or jmckenna@des.state.nh.us.

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